A survey of self-reported oral health practices, behaviour and oral health status of pregnant women attending TBA ante-natal clinics in a Nigerian rural community.

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ABSTRACT

Objectives: To assess the self-reported oral health practices, behaviour and oral health status of pregnant women attending traditional birth attendant (TBA) clinics in a rural community.
Methods: A cross sectional survey of the oral health practices and oral health status of sixty-two pregnant women attending traditional birth attendant clinics in a rural community was conducted using interviewer-administered questionnaires.Dental caries experiencewas determined using WHO diagnostic criteria to measure the DMFT,Significant caries (Sic) while oral hygiene status was determined using criteria by Greene and Vermillion. Frequency distribution by age, pregnancy status, occupational status, sugary snack consumption, tooth brushing, exposure to fluoride toothpaste and dental visits were obtained. Data was analyzed using SPSS version 20 and level of significance was placed at $p<0.05$.
Results: Sixty-six percent of the population were in 20-30 years age range and mostly in their third trimester. Caries prevalence was 37%, mean DMFT was 0.87 (SD 1.57) and Sic index was 2.48. Sixty-six percent had good oral hygiene.Seventy-eight percent of the population who had never visited the dentist had some caries experience ($p<0.05$).
Conclusion: Dental utilization was poor and there were a number of unmet treatment needs among pregnant women attending TBA clinics. There is need to train traditional birth attendants to identify simple oral diseases and incorporate them into oral health promotion programmes in order to improve referral of pregnant women, oral health awareness and dental service utilization among pregnant women in the region.
Keywords: oral health practices, oral health status, pregnant women, traditional birth attendant clinics, Nigerian rural community

INTRODUCTION

Cultural beliefs, maternal education, cost, availability of antenatal care services,attitude of care-givers, long waiting time, perceived irrelevance and distance to venue are among the factors affecting utilization of antenatal services in developing countries.[1,2]

In order to overcome these challenges, pregnant women in rural areas have sought easier means to attend to their antenatal and delivery care by seeking traditional birth attendants living within their communities. According to World Health Organization (WHO),a traditional birth attendant (TBA) is 'a person who assists the mother during childbirth and who initially acquires skills by delivering babies herself or through an apprenticeship to other TBAs' (WHO 1992). They are recognized and incorporated into health care service delivery to pregnant women in rural areas. They are however expected to undergo regular training to improve their skills in order to reduce childhood and maternal mortality and improve reproductive health. Training involves improvement of link between the community and modern health care facilities.[3]

The paucity of studies on oral health knowledge of traditional birth attendants may be due to lack of incorporation of oral health into their training curriculum. There was a report on oral health care delivery by traditional healers in Cameroon using divination and herbalism[4], howeverthere was no

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Received 14/08/2017
Accepted 03/10/2017

report on collaboration between oral health care workers and the traditional healers.

Traditional Birth Attendants (TBAs) are readily accepted in the rural communities in Nigeria. They have been found to perform such roles as routine antenatal care, normal delivery and family planning services. They are patronised because they are cheaper, culturally acceptable and accessible to the people.[5]

As a result of low oral health awareness at the primary health care level among pregnant women living in rural communities in Nigeria[6], theywill seek oral care only when there is pain or discomfort and thereby resort to more accessible means of relief with TBAs who lack training in primary oral care.There are current initiatives to incorporate oral health into the Midwifery training programmesas 'Midwifery Initiated Oral Health' (MIOH) in which midwives are being incorporated into oral health promotion programmes.[7,8] This programme is gaining recognition due to growing knowledge of association between maternal periodontal disease and preterm birth or low birth weight as well as association between high maternal prevalence of caries and infant caries[9].
Pregnant women are prone to dental cariesbecause of their cravings for sugary diet, and limited attention to their oral health[10]. Children of mothers who have high caries levels are more likely to develop dental caries[11]. Pregnant women should decrease their risk of caries by brushing twice daily with fluoride toothpaste, limit sugary foods and substitute with balanced diet including dairy products, fruits and vegetables. Those with untreated caries and associated complications should be referred to a dentist for definitive treatment. This can easily be achieved if both the formal and informal health care providers, including the traditional birth attendants, have opportunities to link with each other. The purpose of the study is therefore to assess the oral health practices and oral health status of pregnant women attending traditional birth attendant (TBA) clinician order to have baseline data,with the objective of recommending roles for TBAs in the delivery of oral health care services to pregnant women.

METHODS

A cross sectional survey of all pregnant women totalling sixty-two that attended two traditional birth attendant clinics was carried out during a two week study period (17th – 29th October, 2011) at Ifo local government area of Ogun State. Response rate was 100%. Ethical Approval was obtained from the Research and Evaluation Centre of the Local Government Area. Permission was obtained from the Traditional Birth Attendants and informed consent obtained from the pregnant women attending the clinics. A trained student nurse working at Ifo Primary Health Centre was employed as assistant and calibrated to administer the questionnaire while the dentist conducted oral examination for dental caries, calculus, and debris. Structured interviewer – administered questionnaires (Appendix A) were used to determine the oral health practices of the pregnant women. A pro-forma oral examination chart (Appendix B) was used withvisual aid using disposable latex gloves, face masks, wooden spatulas and natural light.

The sequence of the survey included administration of a questionnaire; oral examination and oral health talk respectively. Those that needed treatment were given an appointment to visit the Primary health centre at Pakoto, Ifo, where the researcher shall treat them or otherwise, referred to the nearest Teaching Hospital for advanced care where dental services can be obtained.

Dichotomous variables (Yes/No answers) were used to assess self-reported oral health practices and snacking habits. The questionnaire containedfrequency of sugary snack consumption, frequency of tooth brushing, use of fluoride toothpaste and dental visit. Prevalence of dental caries was determined using the guidelines of World Health Organization[12] where caries is diagnosed when cavity is in surface of dentine.DMFT scores and level of significant caries (Sic index) were measured. Oral hygiene status was assessed using Simplified Oral Hygiene Index (OHI-S) by Greene and Vermillion which is a composite score of debris and calculus as seen on index surfaces of central incisors and first permanent molars. Simple statistics on frequency distributions and Chi Square test to determine association between DMFT and dental visit were obtained. Data was analysed using SPSS version 20. Level of significance was placed at $p<0.05$.

DISCUSSION

Utilization of antenatal services has been reported to be generally low and late, commonly occurring in the

second or third trimester in some rural areas of Nigeria. Reasons attributed to this were ignorance, misconceptions about antenatal care, economic and cultural beliefs[13,14].

In this present study, most of the pregnant women (66%) were young adults within age range 20-30 years and presented at the traditional birth attendant clinics during the third trimester(Table 1). This result is similar to reports in rural communities in Ibadan, South western Nigeria[2] and Anambra, South eastern Nigeria[15]. This implies that pregnant women in these communities seek antenatal care late in their pregnancy period.

Rural population in Nigeria constitutes 53.1

RESULTS

Table 1: Frequency distribution of age group, occupational status and pregnancy stages

Age group	Frequency	Percentage (%)
<20years	3	5.0
20-30years	41	66.0
31-40years	17	27.0
40years	1	2.0
Total	**62**	**100.0**
Occupational Status		
Unemployed	4	3.0
Unskilled	46	76.0
Skilled	12	21.0
Total	**62**	**100.0**
Pregnancy Stage		
<3months	6	9.0
3-6months	16	25.0
6-9months	40	66.0
Total	**62**	**100.0**

Majority of the pregnant women in the study were young adults within age range 20-30 years (66%),mostly unskilled (76%) and in their third trimester (66%).

Table 2: Self-reported oral health practices and snacking habits

Oral health practices and snacking habit	Yes	No
Sugary snack consumption between meals	29 (47%)	33 (53%)
Mouth cleaning> once daily	36 (58%)	26 (42%)
Brush with fluoridated toothpaste	44 (73%)	16 (27%)
Had ever visited the dentist	8 (13%)	54 (87%)

X^2=48.597, p=0.0001

Fair consumption of sugary snacks between meals in the study population (53%), with more pregnant women engaging in mouth cleaning more than once daily (58%) using fluoridated tooth paste (73%). Dental visit was however very low (87%).

Table 3 Frequency distribution of DMFT levels among pregnant women

DMFT scores	Frequency	Percent (%)
0	39	63.0
1	11	18.0
2	4	6.5
3	4	6.5
5	2	3.0
6	1	1.5
7	1	1.5
Total	62	100.0

Caries prevalence, mean DMFT and Significant caries (Sic) index of the population were 37%, 0.87 (SD 1.57)and 2.48 respectively.

Table 4: Frequency distribution of DMFT scores, oral hygiene status and occupational status

DMFT scores		Unemployed (n=4)	Unskilled (n=46)	Skilled (n=12)	Total	P value
	0	0(0.0)	26(72.0)	10(27.8)	36	0.421
	1	2(16.7)	9(75.0)	1(8.3)	12	
	2	0(0.0)	2(66.7)	1(33.3)	3	
	>3	2(18.2)	9(81.8)	0(0.0)	11	
Oral hygiene status						
Good		4(9.8)	29(70.7)	8(19.5)	41	0.968
Fair		0	17(81.0)	8(19.0)	21	

17.7% (11/62) of the study population had DMFT score ≥ 3 out of which 81.8% were pregnant women with unskilled occupational status. 58% (36/62) of the study population had DMFT score 0 (p=0.421). Most of the pregnant women in this study either had good or fair oral hygiene and majority were unskilled (p=0.968). 66% (41/62) of the study population had good oral hygiene status.

Table 5: Association between caries experience (DMFT score) and dental visit

DMFT scores	Dental visit		Total
	Yes	No	
0	3(5.3%)	36(94.7%)	39(62.9%)
1	2(18.2%)	9(81.8%)	11(17.7%)
2	2(50%)	2(50%)	4(6.5%)
>3	1(12.5%)	7(87.5%)	8(12.9%)
Total	8(13%)	54(87%)	62(100%)

p = 0.106

Despite caries experience among the study population, dental visit was very low (p = 0.106).

percent[16]of total population of 182.2 million (Nigerian census 2015). The World Health Organisation (WHO) recommendation for antenatal care (ANC) attendance is four times starting from the first trimester[17]. WHO recommendation of Dentist to population ratio is 1: 7,500 while the Dentist to population ratio in most African countries is 1:150,000[18]. Most of the dentists are concentrated in the urban areas due to lack of facilities and incentives in rural communities. WHO therefore recommends that training programmes should be provided for types of personnel which would match the oral health needs and infrastructure of the region. It is therefore necessary to train the available personnel in the rural areas such as traditional birth attendants on prevention and early detection of oral diseases including dental caries and poor oral hygiene in order to enhance speedy referral.

Majority of the pregnant women in this study were unskilled (Table 1). This confirms an earlier study carried out in the same regionwhich reportedthat the major occupations of the women were farming and trading[19].The pregnant women seek ante-natal care with Traditional Birth Attendants (TBAs) who offer accessible and affordable care at the primary health care level[20].

Most of the literatures reviewed reported good oral hygiene habits and practices among pregnant women but this may not necessarily reflect on their oral health status. A cross-sectional questionnaire based study in Lagos reported positive attitude towards oral health but which did not reflect on their oral hygiene practices[21]. Most studies report brushing habits among pregnant women at least once a day using toothbrush and fluoride toothpaste[18-21]. Poorer oral hygiene status was however reported in a study among pregnant women as pregnancy stage increased, with highest oral hygiene score recorded in the third trimester, reflecting the poorest oral hygiene status[22].

The predisposition of pregnant women to gingivitis is well documented in various studies. This is due to increased progesterone level during pregnancy which increases gingival vasculature. In the presence of local irritants and bacteria, pregnant women become predisposed to gingivitis and localised gingival enlargement called pregnancy oral tumor[9]. In this study, most of the pregnant women had good oral hygiene.

Caries experience among pregnant women is expected to be high due to their predisposition to gastric regurgitation which may cause demineralization of enamel and their craving for sweetened diets[10]. These factors may work synergistically to predispose them to dental caries. Changes in the oral environment during pregnancy such as increase in cariogenic microorganisms, decrease in salivary pH and buffering effect of saliva may contribute to increased predisposition to caries[23].

A study among pregnant women attending antenatal clinic at a health centre in Lagos[24] reported a mean DMFT score of 1.54. A study in Thailand compared prevalence of dental caries among pregnant and non-pregnant women and it was reported that pregnant women were 2.9 times more likely to have caries than non-pregnant women and the result was statistically significant[24]. Over 74.0% of the pregnant women were reported to have dental caries in Thailand.

In the present study, caries prevalence among the pregnant women was 37% (23/62), the mean DMFT was 0.87 and significant caries (Sic) index was 2.48 as shown in Table 3. This shows that although the mean DMFT was low, there were a number of pregnant women within the sampled population with high DMFT. Caries prevalence was higher among the unskilledoccupational status than the skilled group of pregnant women in this study as shown in Table 4.

Majority of both the skilled and unskilled groups of pregnant women had good oral hygiene status (Table 4). A study comparing oral health status of pregnant and non-pregnant women in Thailand reported that being Farmers and High school graduates were factors associated with gingivitis among pregnant women[25] in that region.

Utilization of oral health care services was poor in this study as 87% of the pregnant women had never visited a dentist for oral health care (Table 5). This is similar to earlier studieswhich reported low dental attendance among pregnant women[26,27].Earlier studies showed that pregnant women in this location had poor attitude to utilization of modern health care facilities[5] despite their close proximity to Pakoto, Ifo health centre which is an annex of Lagos University Teaching Hospital.Ifo local government is located at about 40km to the city therefore, thealternative health care delivery service easily available and accessible to them is provided by traditional birth attendants living within their community. There is need to educate and train the traditional birth attendants on identification of oral problems among pregnant women and referral to the nearest orthodox dental centres.

Caries experience was 37% while dental attendance was 13% (P=0.106).Amongst those with caries experience, 78% (18/23) had not visited the dentist and this constituted 50% (18/36) of the entire study sample population that had not visited the dentist (Table 5). This indicates that there are a number of unmet treatmentneeds in the study population due to poor dental attendance.

This study is limited by the small sample size which is due to the limited number of traditional birth attendant clinics visited in the region within the short study period. However, it was observed that the study locations were the most attended traditional birth attendant clinics in the region. More studies may however be required in other to have a more generalizable result

CONCLUSION

Dental utilization was poor and there were unmet treatment needs among pregnant women attending TBA clinics in this study. There is need to include the traditional birth attendants into the oral health promotion programme similar to those of Midwives, in order to improve oral health awareness and dental service utilization among pregnant women in this region and the country as a whole.

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